

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- 1 (canceled)
- 2 (currently amended): The device of claim 22, ~~±~~ wherein the surface defines at least a portion of a microwave resonant cavity.
- 3 (currently amended): The device of claim 22 ~~±~~, wherein the thickness of the metal fitting is greater than 10  $\mu\text{m}$ .
- 4 (currently amended): The device of claim 22, ~~±~~ wherein the surface defines at least a portion of a microwave reflector.
- 5 (currently amended): The device of claim 22, ~~±~~ wherein the substrate comprises an insulator.
- 6 (currently amended): The device of claim 22, ~~±~~ wherein the thickness of the metal fitting is less than 500 $\mu\text{m}$ .
- 7 (currently amended): The device of claim 6, ~~5~~ wherein the thickness of the metal fitting is less than 100 $\mu\text{m}$ .
- 8 (currently amended): ~~The device of claim 1 wherein the substrate~~ A device for manipulating microwave radiation, comprising:
  - a mechanically stable substrate that defines the shape of a surface for reflecting microwave radiation, and has a coefficient of thermal expansion less than  $5 \times 10^{-6}/^{\circ}\text{C}$ ; and
  - a metal fitting conforming to the defined shape, and providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness that is insufficient for independent mechanical stability.
- 9 (currently amended): ~~The device of claim 1 wherein the metal fitting~~ A device for manipulating microwave radiation, comprising:

a mechanically stable substrate that defines the shape of a surface for reflecting microwave radiation; and

a metal fitting conforming to the defined shape, and providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness that is insufficient for independent mechanical stability and has a coefficient of thermal expansion greater than  $10 \times 10^{-6}/^{\circ}\text{C}$ .

10 (currently amended): The device of claim 22,  $\pm$  further comprising a braze joint that bonds the metal fitting to the substrate.

11 (currently amended): The device of claim 22,  $\pm$  wherein the metal fitting comprises silver.

12 (currently amended): The device of claim 22,  $\pm$  wherein the metal fitting comprises a wrought metal.

13 (currently amended): The device of claim 22,  $\pm$  wherein the metal fitting consists of a metal that is at least 99% pure.

14 (currently amended): The device of claim 22,  $\pm$  wherein the metal fitting is bonded to the substrate via an interference fit.

15 (currently amended): The device of claim 22,  $\pm$  wherein the metal fitting has a machined surface.

16 (currently amended): The device of claim 22,  $\pm$  wherein the metal fitting completely shields the substrate from exposure to the microwave radiation.

17 (currently amended): The device of claim 22,  $\pm$  further comprising an adhesive layer between the substrate and the metal fitting.

18 (original): The device of claim 17, wherein the adhesive layer has a thickness of less than  $1.0 \mu\text{m}$ .

19 (currently amended): The device of claim 22  $\pm$ , wherein the metal fitting has a ring shape having an inner diameter and an outer diameter.

20 (original): The device of claim 19, wherein the inner diameter is machined to

match an outer diameter of the substrate.

21 (original): The device of claim 19, wherein the outer diameter is machined to match an inner diameter of the substrate.

22 (currently amended): ~~The device of claim 1,~~ A device for manipulating microwave radiation, comprising:

a mechanically stable substrate that defines the shape of a surface for reflecting microwave radiation; and

a metal fitting conforming to the defined shape, and providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness that is insufficient for independent mechanical stability,

wherein the substrate and the metal fitting have a compatible thermal behavior.

23 (withdrawn): A method for making a device for manipulating microwave radiation, comprising:

providing a substrate that defines a shape of a surface for reflecting microwave radiation;

providing a metal fitting having a sufficient thickness to provide mechanical stability; and

bonding the metal fitting to the substrate, the metal fitting providing the surface that reflects microwave radiation.

24 (withdrawn): The method of claim 23, further comprising thinning the metal fitting to provide the surface after bonding the metal fitting.

25 (withdrawn): The method of claim 24, wherein thinning the metal fitting comprises machining the metal fitting.

26 (withdrawn): The method of claim 23, wherein providing the metal fitting comprises machining the metal fitting prior to bonding the metal fitting to the substrate.

27 (withdrawn): The method of claim 23 wherein the metal fitting has a thickness

of greater than 500 $\mu$ m.

- 28 (withdrawn): The method of claim 23, wherein providing the metal fitting comprises casting and deforming the metal fitting.
- 29 (withdrawn): The method of claim 23, wherein bonding comprises: providing a brazing layer between the metal fitting and the substrate; and heating the brazing layer to a brazing temperature.
- 30 (withdrawn): The method of claim 23, wherein bonding comprises providing an epoxy layer between the substrate and the metal fitting.
- 31 (withdrawn): The method of claim 23, wherein bonding comprises providing a compression fit.
- 32 (withdrawn): The method of claim 31, wherein bonding further comprises: cooling the metal fitting; placing the metal fitting adjacent to the substrate; and causing the metal fitting to warm to an original temperature.
- 33 (withdrawn): The method of claim 31, wherein bonding further comprises: heating the substrate; placing the metal fitting adjacent to the substrate; and causing the metal fitting to cool to an original temperature.
- 34 (withdrawn): The method of claim 23, wherein bonding comprises: packing an elastomer against the metal fitting; and applying a pressure to the elastomer to cause the metal fitting to deform.
- 35 (withdrawn): The method of claim 34, wherein bonding further comprises disposing an adhesive layer between the metal fitting and the substrate, the adhesive layer having a thickness of less than 1.0  $\mu$ m after applying the pressure to the elastomer.
- 36 (withdrawn): The method of claim 23 wherein the metal fitting has a circular shape having an inner diameter that matches an outer diameter of the substrate to a radial tolerance sufficient to provide a stable fit between the metal fitting and the substrate.
- 37 (withdrawn): The method of claim 36 wherein bonding comprises providing

friction between the metal fitting and the substrate to assist the stable fit.

38 (withdrawn): The method of claim 36 wherein bonding comprises providing an adhesive between the metal fitting and the substrate to assist the stable fit.

39 (withdrawn): The method of claim 23 wherein the substrate comprises an insulator.